What is claimed is:

1.   A method for switching communication modes for shifting an exchange from a frame relay exchange to an ATM exchange in a communication system having a plurality of exchanges each accommodating a plurality of terminals and including a frame relay exchange and having a network for connecting the plurality of exchanges to each other in order to transfer data among said plurality of terminals, comprising

        a first step of selecting any one exchange among said plurality of exchanges,

        a second step of operating said selected exchange as a frame/cell compatible type exchange capable of operating for both of frames and cells, and

        a third step of executing said first step and second step for an exchange which has not yet been selected and

        repeating said third step to autonomously shift all said exchanges to said ATM exchanges.

2.   A method for switching communication modes as set forth in claim 1, wherein, in said second step,

        whether an opposing exchange or an opposing terminal of an other party of communication operates for frames or operates for cells is registered on said selected exchange side in advance as office data, and

        the selected exchange is operated as an exchange operating for frames or an exchange operating for cells according to the office data.

3.   A method for switching communication modes as set forth in claim 1, wherein, in said second step,

        whether an opposing exchange or an opposing terminal of another party of communication operates for frames or operates for cells is automatically identified in said selected exchange, and

        the selected exchange is operated as an exchange operating for frames or an exchange operating

for cells according to the result of the identification.

     4.   An exchange provided with:

         an ATM side bus and a frame side bus provided in parallel,

         a frame/cell compatibility function unit inserted in said ATM side bus, and

         a frame/cell switch unit for alternatively switching between said ATM side bus and frame side bus.

     5.   An exchange as set forth in claim 4, wherein said frame/cell compatibility function unit is comprised of an ATM switch and a frame/cell format converting unit connected to the ATM switch.

     6.   An exchange as set forth in claim 5, wherein said frame/cell format converting unit is a frame forwarding CLAD circuit.

     7.   An exchange as set forth in claim 4, wherein said frame/cell switch unit switches alternatively between said ATM side bus and frame side bus in accordance with an instruction from the outside.

     8.   An exchange as set forth in claim 7, wherein said instruction is given according to office data registered in advance.

     9.   An exchange as set forth in claim 7, further provided with:

         a frame/cell detection unit for detecting whether a signal input from the outside is comprised of frames or cells,

         said instruction being created in accordance with the result of detection by this frame/cell detection unit.

     10. An exchange as set forth in claim 9, further provided with:

         a pair of said frame/cell switch units formed at the two end portions of said ATM side bus and frame side bus provided in parallel and

         a switch control unit for receiving as input the result of detection by said frame/cell

detection unit and controlling said pair of interlocked frame/cell switch units.

11. An exchange as set forth in claim 9, wherein said frame/cell detection unit is comprised of a cell synchronization circuit.

12. An exchange as set forth in claim 9, wherein said frame/cell detection unit has

an identifying means for monitoring for cell synchronization during a first time t1 and automatically identifying that an opposing exchange or an opposing terminal of another party of communication operates for frames when detecting that cell synchronization cannot be established during the time t1.

13. An exchange as set forth in claim 9, wherein said frame/cell detection unit has

an identifying means for monitoring for cell synchronization during a first certain time t1 and automatically identifying that an opposing exchange or an opposing terminal of another party of communication operates for cells when detecting that cell synchronization can be continuously established during the time t1.

14. An exchange as set forth in claim 9, wherein, when said frame/cell detection unit detects that a signal input from the outside is comprised of frames, said frame/cell switch unit switches to said frame side bus and passes the frames through the frame side bus while maintaining the signal format.

15. An exchange as set forth in claim 9, wherein, when said frame/cell detection unit detects that a signal input from the outside is comprised of cells, said frame/cell switch unit switches to said ATM side bus, inputs the cells to said frame/cell compatibility function unit, processes the cells and converts them to the frame signal format, then passes the same through the ATM side bus.

16. An exchange as set forth in claim 14, wherein

said frame/cell detection unit has

an identifying means for subsequently monitoring for cell synchronization during a second certain time t2 while passing said frames through said frame side bus while maintaining the signal format and automatically identifying that an opposing exchange or opposing terminal of another party of communication has changed to one operating for cells when detecting that cell synchronization could be established during the time t2, and

said frame/cell switch unit switches the bus to said ATM side bus, inputs the cells to said frame/cell compatibility function unit, processes the cells and converts them to the frame signal format, and then passes the same through the ATM side bus.

17. An exchange as set forth in claim 15, wherein said frame/cell detection unit has

an identifying means for subsequently monitoring for cell synchronization during a third certain time t3 while passing said cells through said ATM side bus and automatically identifying that an opposing exchange or opposing terminal of another party of communication has changed to one operating for frames when detecting that cell synchronization cannot be established during the time t3, and

said frame/cell switch unit switches the bus to said frame side bus and passes the frames through the frame side bus while maintaining the signal format.

18. An exchange as set forth in claim 12 or 13, wherein when communicating with said opposing exchange or opposing terminal via high speed digital dedicated lines, said monitoring is carried out in units of B channels × N (N is 1, 2, 3, ...).

19. An exchange as set forth in claim 12 or 13, wherein when communicating with said opposing exchange or opposing terminal via an ISDN backup channel at the time of a line fault, said monitoring is carried out with

respect to the related communication in units of B
channels × N (N is 1, 2, 3, ...) during the period from
completion of the connection to the ISDN backup channel
to restoration of the channel due to the end of the line

5   fault.

20.   An exchange as set forth in claim 7, further
provided with a system console, the switch state to said
ATM side bus or to frame side bus by said frame/cell
switch unit being displayed on the system console.

10   21.   An exchange as set forth in claim 12 or 13,
wherein said first certain time t1 is registered in units
of B channels × N (N is 1, 2, 3, ...) or in units of
channels by a command from the outside.

22.   An exchange as set forth in claim 16, wherein

15   said second certain time t2 is registered in units of B
channels × N (N is 1, 2, 3, ...) or in units of channels
by a command from the outside.

23.   An exchange as set forth in claim 17, wherein
said third certain time t3 is registered in units of B

20   channels × N (N is 1, 2, 3, ...) or in units of channels
by a command from the outside.

24.   An exchange as set forth in claim 7, wherein
whether an opposing exchange or an opposing terminal of
another party of communication operates for frames or

25   operates for cells as office data is registered in units
of B channels × N (N is 1, 2, 3 ...) or in units of
channels.

25.   An exchange as set forth in claim 9, wherein
the fact that the identification of whether the opposing

30   exchange or opposing terminal of the other party of
communication operates for frames or operates for cells
should be automatically identified by said frame/cell
detection unit is registered as the office data in units
of B channels × N (N is 1, 2, 3, ...) or in units of

35   channels.